

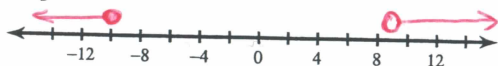
3.6 Compound Inequalities (OR) day 2

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Date _____ Period _____

Solve each compound inequality and graph its solution.

1) $\frac{x}{9} > 1$ or $x - 2 \leq -12$

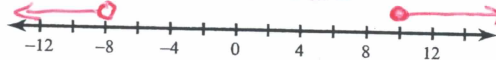


$$9\left(\frac{x}{9}\right) > (1)(9) \text{ or } x - 2 \leq -12$$

$$\frac{9x}{9} > 9 \text{ or } \frac{x-2}{+2} \leq \frac{-12}{+2}$$

$$x > 9 \text{ or } x \leq -10$$

2) $-8 + x < -16$ or $x - 8 \geq 2$



$$\begin{array}{rcl} -8 + x < -16 & \text{or} & x - 8 \geq 2 \\ +8 & & +8 \end{array}$$

$$x < -8 \text{ or } x \geq 10$$

3) $\frac{r}{8} \geq 1$ or $r + 9 < 11$

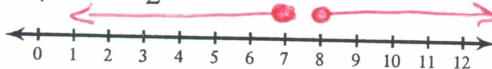


$$8\left(\frac{r}{8}\right) \geq (1)(8) \text{ or } r + 9 < 11$$

$$\frac{8r}{8} \geq 8 \text{ or } \frac{r+9}{-9} < \frac{11}{-9}$$

$$r \geq 8 \text{ or } r < 2$$

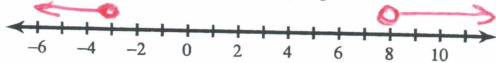
4) $\frac{a}{7} \leq 1$ or $\frac{a}{2} \geq 4$



$$(7)\left(\frac{a}{7}\right) \leq (1)(7) \text{ or } (2)\left(\frac{a}{2}\right) \geq (4)(2)$$

$$a \leq 7 \text{ or } a \geq 8$$

5) $-9x < -72$ or $x - 6 \leq -9$



$$\begin{array}{rcl} -9x < -72 & \text{or} & x - 6 \leq -9 \\ \div -9 & & \div -9 \end{array}$$

$$x > 8 \text{ or } x \leq -3$$

FLIP IT!

7) $9x + 10 > 100$ or $x + 9 < 10$

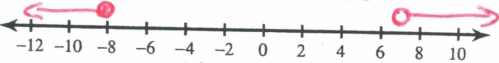


$$\begin{array}{rcl} 9x + 10 > 100 & \text{or} & x + 9 < 10 \\ -10 & & -9 \end{array}$$

$$\frac{9x}{9} > \frac{90}{9} \text{ or } \frac{x}{-9} < \frac{-9}{-9}$$

$$x > 10 \text{ or } x < 1$$

9) $7x - 8 > 41$ or $x - 10 \leq -18$

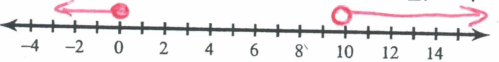


$$\begin{array}{rcl} 7x - 8 > 41 & \text{or} & x - 10 \leq -18 \\ +8 & & +10 \end{array}$$

$$\frac{7x}{7} > \frac{49}{7} \text{ or } \frac{x}{-1} \leq \frac{-8}{-1}$$

$$x > 7 \text{ or } x \leq -8$$

11) $-10 - 2r \geq 5r - 10$ or $r + 3 < 2r - 7$



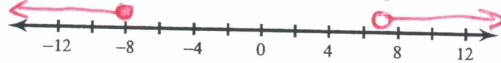
$$\begin{array}{rcl} -10 - 2r \geq 5r - 10 & \text{or} & r + 3 < 2r - 7 \\ +2r & & +2r \end{array}$$

$$\frac{-10}{+10} \geq \frac{7r-10}{+10} \text{ or } \frac{3}{+7} < \frac{r-7}{+7}$$

$$0 \geq 7r \text{ or } 10 < r$$

$$0 \geq r \rightarrow r \leq 0 \text{ or } r > 10$$

6) $9b - 3 > 60$ or $-10 - 6b \geq 38$



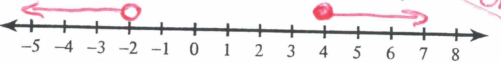
$$\begin{array}{rcl} 9b - 3 > 60 & \text{or} & -10 - 6b \geq 38 \\ +3 & & +10 \end{array}$$

$$\frac{9b}{9} > \frac{63}{9} \text{ or } \frac{-6b}{-6} \geq \frac{48}{-6}$$

$$b > 7 \text{ or } b \leq -8$$

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8) $-2x - 10 \leq -18$ or $-4x - 4 > 4$



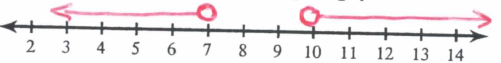
$$\begin{array}{rcl} -2x - 10 \leq -18 & \text{or} & -4x - 4 > 4 \\ +10 & & +4 \end{array}$$

$$\frac{-2x}{-2} \leq \frac{-8}{-2} \text{ or } \frac{-4x}{-4} > \frac{8}{-4}$$

$$x \geq 4 \text{ or } x < -2$$

FLIP IT!

10) $7n + 8 < 57$ or $4n - 6 > 34$

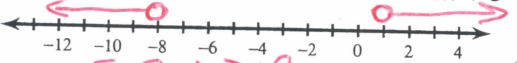


$$\begin{array}{rcl} 7n + 8 < 57 & \text{or} & 4n - 6 > 34 \\ -8 & & +6 \end{array}$$

$$\frac{7n}{7} < \frac{49}{7} \text{ or } \frac{4n}{4} > \frac{40}{4}$$

$$n < 7 \text{ or } n > 10$$

12) $-5 + 8x > 3 + 9x$ or $1 + 10x > 6x + 5$



$$\begin{array}{rcl} -5 + 8x > 3 + 9x & \text{or} & 1 + 10x > 6x + 5 \\ -8x & & -6x \end{array}$$

$$\frac{-5}{-3} > \frac{3+x}{-3} \text{ or } \frac{1}{-1} > \frac{5-4x}{-1}$$

$$-8 > x \text{ or } 4x > 4$$

$$x < -8 \text{ or } x > 1$$